

CLAIMS:

1. A method for the fabrication of a dental coping of a dental prosthesis of at least one tooth to be fitted over a tooth preparation, comprising:
 - a) providing a three-dimensional (3D) digital data relating to the patient's dentition, said 3D data including data representative of the surface topology of said preparation and its surroundings;
 - b) generating a three-dimensional (3D) virtual model of a dental coping for said at least one tooth, such that the inner surface of the virtual coping fits over a portion of the surface of the tooth preparation in close engagement;
 - c) generating a computerized numerical control (CNC) set of instructions corresponding to the 3D model of said coping;
 - d) based on said set of instructions, fabricating a wax model of said coping by a computerized numerical control (CNC) milling machine; and
 - e) fabricating a dental coping from the wax model.
2. A method according to Claim 1, wherein the 3D digital data comprises finish line data of said coping.
3. A method according to claim 1, wherein step (a) is performed using a suitable optical scanner.
4. A method according to claim 3, wherein said scanner comprises a probe for determining three dimensional structure by confocal focusing of an array of light beams.
5. A method according to claim 1, wherein step (a) is performed directly on the intraoral cavity comprising said preparation.
6. A method according to claim 1, wherein said digital data of step (a) is obtained from a virtual model of a prosthesis designed for said preparation.
7. A method according to claim 1 wherein in step (b) an external surface of the virtual coping is created based on predetermined criteria.
8. A method according to claim 7, wherein said criteria relate to providing adequate mechanical strength for the prosthesis.

9. A method according to claim 1, wherein step (e) is carried out according to a lost wax process.
10. A method according to claim 1, wherein said dental coping is made from a suitable metal.
11. A method according to claim 1, wherein said dental coping is made from a suitable ceramic material.
12. A method according to claim 1, wherein said dental coping is adapted for use with a crown prosthesis.
13. A method according to claim 1, wherein said dental coping is adapted for use with a bridge prosthesis.
14. A method according to claim 13, wherein step (d) further comprises the steps of providing wax replicas of suitable connectors and/or one or more pontics, and joining said replicas to wax models of the copings required for said prosthesis.
15. A dental coping, fabricated according to the method of claim 1.
16. A method for the fabrication of a coping wax model to be used for the fabrication of a dental coping of a dental prosthesis of at least one tooth to be fitted over a tooth preparation, comprising:
 - i. providing a three-dimensional (3D) digital data relating to the patient's dentition, said 3D data including data representative of the surface topology of said preparation and its surroundings;
 - ii. generating a three-dimensional (3D) virtual model of a dental coping for said at least one tooth, such that the inner surface of the virtual coping fits over a portion of the surface of the tooth preparation in close engagement;
 - iii. generating a computerized numerical control (CNC) set of instructions corresponding to the 3D model of said coping; and
 - iv. based on said set of instructions, fabricating a wax model by a computerized numerical control (CNC) milling machine.

17. A method according to claim 16, wherein step (i) is performed using a suitable optical scanner.
18. A method according to claim 17, wherein said scanner comprises a probe for determining three dimensional structure by confocal focusing of an array of light beams.
19. A method according to claim 16, wherein step (i) is performed directly on the intraoral cavity comprising said preparation.
20. A method according to claim 16, wherein said digital data of step (i) is obtained from a virtual model of a prosthesis designed for said preparation.
21. A method according to claim 16 wherein in step (ii) an external surface of the virtual coping is created based on predetermined criteria.
22. A method according to claim 21, wherein said criteria comprise relate to providing adequate mechanical strength for the prosthesis.
23. A method according to claim 16, wherein said dental coping is adapted for use with a crown prosthesis.
24. A method according to claim 16, wherein said dental coping is adapted for use with a bridge prosthesis.
25. A method according to claim 24, wherein step (iv) further comprises the steps of providing wax replicas of suitable connectors and/or one or more pontics, and joining said replicas to wax models of the copings required for said prosthesis.
26. A wax coping, fabricated according to the method of claim 16.
27. A system for the fabrication of a dental coping of a dental prosthesis of at least one tooth to be fitted over a tooth preparation, comprising:
 - A. means for providing a three-dimensional (3D) digital data relating to the patient's dentition, said 3D data including data representative of the surface topology of said preparation and its surroundings;
 - B. means for generating a three-dimensional (3D) virtual model of a dental coping for said at least one tooth, such that the inner surface of the virtual

coping fits over a portion of the surface of the tooth preparation in close engagement;

- C. means for generating a computerized numerical control (CNC) set of instructions corresponding to the 3D model of said coping;
- D. means for fabricating a wax model of said coping by a computerized numerical control (CNC) milling machine; and
- E. means for fabricating a dental coping from the wax model.

28. A system for the fabrication of a coping wax model to be used for the fabrication of a dental coping of a dental prosthesis of at least one tooth to be fitted over a tooth preparation, comprising:

- (I) means for providing a three-dimensional (3D) digital data relating to the patient's dentition, said 3D data including data representative of the surface topology of said preparation and its surroundings;
- (II) means for generating a three-dimensional (3D) virtual model of a dental coping for said at least one tooth, such that the inner surface of the virtual coping fits over a portion of the surface of the tooth preparation in close engagement;
- (III) means for generating a computerized numerical control (CNC) set of instructions corresponding to the 3D model of said coping; and
- (IV) means for fabricating a wax model based on said set of instructions by a computerized numerical control (CNC) milling machine.